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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/599,150	06/21/2000	Stuart T. Linsky	22-0133	6920

23446 .7590 10/22/2003

MCANDREWS HELD & MALLOY, LTD
500 WEST MADISON STREET
SUITE 3400
CHICAGO, IL 60661

EXAMINER

FERRIS, DERRICK W

ART UNIT	PAPER NUMBER
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2663

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DATE MAILED: 10/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/599,150

Applicant(s)

LINSKY ET AL.

Examiner

Derrick W. Ferris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 June 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “multiple beam array antenna” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. At issue are the claimed limitations for a “multiple beam array”. In particular, examiner notes applicant discloses a “multiple beam array antenna” in the specification for figures 1 and 2 on pages 8-11; however, the components surrounding the antenna array are not shown in the drawings. Specifically, for figure 1 all the components after a switch 110 are not shown in the figure and for figure 2, all components after the TWT[A] 210 are not shown as well as the ferrite switch(es).

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: please complete the related application information on pages 1 and 25.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-6,9,11-14, and 17-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,377,558 to *Dent* in view of U.S. Patent Application 2001/0005671 to *Peyrovian*.

As to **claim 1**, *Dent* discloses a multi-signal transmit array with low intermodulation. In particular, *Dent* discloses in figure 13 a method for (1) “*a self addressed packet switch routing uplink data to a memory [704,804]*”, (2) “*a switch [110] that directs a waveform derived in part from the uplink data to a selected radiating element on a multiple beam array antenna in response to a hop selection signal [color selection signal 216]*”, and (3) “*the multiple beam array antenna directs the waveform to a beam hop location*”. Specifically, (1) is taught as part of steps 182 and 184, (2) is taught as part of step 186, and (3) is taught as part of steps 188 and 190 of figure 13 [*Dent* column 17 and 18].

What may be at issue between the examiner and applicant is the conjunction “and” in the further limitation of “*the uplink data destined for at least one of a first and a second downlink beam hop location*”. Examiner notes that it would have been obvious to one skilled in the art prior to applicant’s invention to address a packet destined for both a first and a second downlink beam hop. As support and motivation, *Dent* discloses that it is possible to simultaneously transmit to multiple users as long as they lie in different fans [e.g., column 3, lines 7-10]. Thus examiner notes that *Dent* teaches directing a waveform to at least a first and a second downlink beam hop. In addition, *Peyrovian* provides further support in curing the above-cited deficiency by disclosing that a packet

switch 30 routes packets to one or more downlink beams [page 2, paragraph 0022] since the switch has a multicast capability.

As to **claim 2**, see *Dent* column 17, lines 52-55.

As to **claim 3**, see *Dent* column 18, lines 1-20 (i.e., priority based on waiting time for each packet).

As to **claims 4 and 5**, *Dent* is silent or deficient to distinguishing a queue further by coding rate. Examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to distinguish a queue based on a coding rate. *Dent* attempts to cure the deficiency by generally disclosing that formatting is dependent on coding rate [column 19, lines 1-9]. Specifically, *Dent* discloses that different beams may have different bit rates [column 15, line 63 – column 16, line 10]. As queues are partitioned by cell (i.e., beams) [column 17, lines 52-55], one skilled in the art would be motivated to further distinguish a queue by a coding rate.

As to **claim 6**, see *Dent* column 2, line 63 to column 3, line 5.

As to **claim 9**, see the rejection for claim 1. See *Dent* column 18, line 24 for a queue tag 714 disclosed as a “destination identifier code”.

As to **claim 11 and 12**, see the rejections for claim 5 and 6 respectively.

As to **claim 13**, see *Dent* column 8, lines 21-30 and column 17, lines 59-61.

As to **claim 14**, see *Dent* column 17, lines 42-43.

As to **claim 17**, see the rejection for claim 1.

As to **claim 18**, see *Dent* column 18, line 24 for a queue tag 714 disclosed as a “destination identifier code”.

As to **claim 19**, see the rejection for claim 3.

As to **claim 20**, see the rejection for claim 4.

As to **claim 21**, see the rejection for claim 13.

5. **Claims 7,8, 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6,377,558 to *Dent* in view of U.S. Patent Application 2001/0005671 to *Peyrovian* and U.S. Patent 3,864,679 to *Hannan et al.* ("*Hannan*").

As to **claims 7 and 8**, *Dent* is silent to the particular physical structure of the antenna array element, which includes a reflector and feedhorns (e.g., see figure 1).

Examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to use an antenna array with at least one reflector and feedhorns.

As support and motivation, *Hannan* cures the above-cited deficiency by disclosing an antenna with reflector and feedhorns as is known in the art and as shown in figure 3 [column 4, lines 25-52].

As to **claim 10**, see the rejection for claim 8.

6. **Claims 15 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6,377,558 to *Dent* in view of U.S. Patent Application 2001/0005671 to *Peyrovian* and U.S. Patent 5,432,777 to *Le Boudec et al.* ("*Le Boudec*").

As to **claim 15**, *Dent* and *Peyrovian* are silent to using ATM. Examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to use ATM to route a packet where the ATM cell header uses a VPI/VCI value to route a packet. *Le Boudec* provides support and motivation in the background by disclosing that ATM is known in the art for routing packets [column 1, lines 17-34]. Thus *Le Boudec*

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cures the above-cited deficiency by disclosing that it is known in the art to use ATM VPI/VCI values for packet switching/routing.

As to **claim 16**, see *Le Boudec* column 1, line 21-23.

7. **Claim 22** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,377,558 to *Dent* in view of U.S. Patent Application 2001/0005671 to *Peyrovian* in further view of U.S. Patent 5,617,108 to *Silinsky et al.* ("*Silinsky*").

As to **claim 22**, *Dent* and *Peyrovian* are silent to using a ferrite switch. Examiner notes that it would have been obvious to someone skilled in the art prior to applicant's invention to use a "ferrite switch" for switching. As support and motivation, *Silinsky* cures the above-cited deficiency by disclosing that ferrite switches are well known in the art as an alternate to switching (column 7, lines 5-15; figure 7). Thus *Silinsky* provides a motivation for using a "ferrite switch".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (703) 305-4225. The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (703) 308-5340. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 305-3900.

Derrick W. Ferris

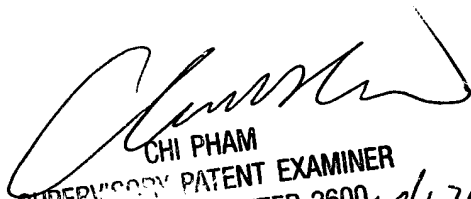
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Examiner
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CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600 10/17/03